

WHAT IS CLAIMED IS:

1. A polyvalent vaccine composition useful for the
treatment of human melanoma cancer, said vaccine
composition consisting essentially of multiple
melanoma-associated cell surface antigens shed
upon culturing multiple different human melanoma
cell lines in serum-free medium for a period of
time before said shed antigens are substantially
degraded in said medium and wherein said shed
antigens are partially separated from the bulk of
cytoplasmic cellular components which are shed
more slowly, said cell lines having been previ-
ously adapted to and maintained in a serum-free
medium and are selected on the basis of shedding
different molecular weight melanoma associated
cell surface antigens during culturing in a
serum-free medium.
2. A polyvalent vaccine composition useful for the
treatment of human melanoma cancer, said vaccine
composition consisting essentially of multiple
melanoma-associated cell surface antigens shed
upon culturing human melanoma cell lines in
serum-free medium for a period of time before
said shed antigens are substantially degraded in
said medium and wherein said shed antigens are
partially separated from the bulk of cytoplasmic
cellular components which are shed more slowly,
said cell lines having been previously adapted to
and maintained in a serum free medium and wherein
the shed cell-surface antigens from multiple
different cell lines are pooled.
3. A method of treating a human suffering from human

melanoma cancer which comprises administering to the human a vaccine in accordance with Claim 2.

4. A vaccine suitable for administration to a human for the treatment of human melanoma cancer, said vaccine consisting essentially of human melanoma associated cell surface antigens and a suitable physiologically acceptable carrier therefor, said vaccine containing said human melanoma associated antigens having been prepared by:
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- 10 (a) culturing in a serum free medium for a period of time before said cell surface antigens are substantially degraded in said medium and said shed antigens are partially separated from the bulk of cytoplasmic cellular components which are shed more slowly in a serum free medium, a pool
- 15 of human melanoma cell lines wherein said cell lines are selected based on shedding different molecular weight cell surface melanoma associated antigens, said melanoma cells prior to culturing having been adapted to and maintained in a serum free culture medium;
- 20 (b) subjecting the culture medium after culturing the melanoma cells therein to a particle separation operation for the removal of melanoma cells from said culture medium;
- 25 (c) concentrating the resulting melanoma cell free culture medium which contains shed melanoma associated cell surface material therein, said material having been shed from said melanoma cell lines during culturing; and
- 30 (d) recovering resulting shed melanoma cell antigen material and utilizing said recovered shed antigen material in the preparation of said vaccine comprising said melanoma associated cell

surface antigens.

5. A method for the treatment of human melanoma which comprises administering to a human a vaccine in accordance with Claim 4.

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6. A method for the treatment of human melanoma which comprises intradermally administering to a human a vaccine in accordance with Claim 4.

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7. A method for the treatment of human melanoma which comprises intravenously administering to a human a vaccine in accordance with Claim 4.

8. A method for the treatment of human melanoma which comprises intramuscularly administering to a human a vaccine in accordance with Claim 4.

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9. A method for the treatment of human melanoma which comprises intermittently intradermally administering to a human a vaccine in accordance with Claim 4.